Teachers' Retirement Board Investment Committee Open Session

Subject: Equity- Structure of Item Number: 5
Non-U.S. Equity Attachment(s): 2

Action: X Date of Meeting: May 6, 1998

Ms. Okada
Information: Presenters: Mr. Bryant

EXECUTIVE SUMMARY

One of the 1997-98 objectives was to evaluate the role of non-U.S. equity including the role of active management for the international and emerging market portfolios. There have been three educational sessions devoted to non-U.S. equity designed to provide additional insight for the Investment Committee.

Attachment 1 provides a review and discussion on the mandate(s) to be utilized to structure the non-U.S. equity portfolio.

Attachment 2 provides a comprehensive implementation plan for the non-U.S. equity portfolio including recommendations on the percentage of active management, regional mandates, and EAFE mandate.

Recommendation

Staff and Pension Consulting Alliance recommend:

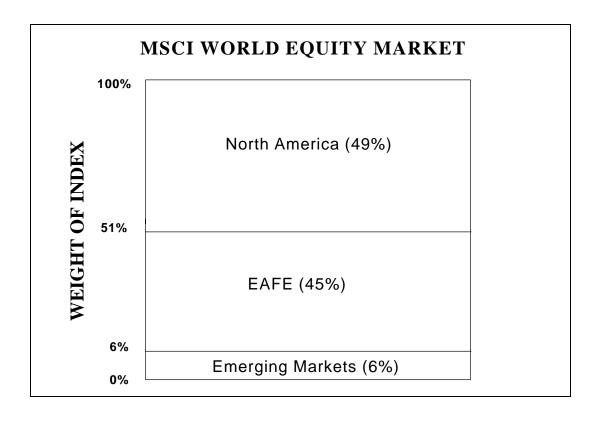
- 1. The MSCI EAFE Index should continue to be the benchmark for the STRS' non-U.S. equity portfolio. This includes regional indices for regional mandates.
- 2. Modify the strategic allocation target to 50% active management and 50% passive management for the non-U.S. equity portfolio. The strategic allocation target would have a range from 45% to 55%.

STRUCTURE OF NON-U.S. EQUITY

REVIEW OF THE ROLE OF NON-U.S. EQUITY

The Board adopted an asset allocation strategy to diversify the risk of the California State Teachers' Retirement System's (STRS') total portfolio by including non-U.S. equity. The first non-U.S. equity investment was incorporated into STRS' portfolio in 1992. The most recent Asset Allocation Study, conducted in 1997, revisited the role of non-U.S. equity and increased its allocation target from 18% to 25% of total assets.

The Morgan Stanley Capital International (MSCI) World Equity Market Index, the most widely used index for global equity markets, has a capitalization of approximately \$13.2 trillion. The largest component of this index is North America (U.S. and Canada) with a market capitalization of \$6.5 trillion which represents 49% of available equity. The next largest component is the MSCI Europe, Australia and Far East (EAFE) Index which represents \$6.0 trillion or 45% of available equity. The remaining 6% is represented by the MSCI Emerging Markets Index which is capitalized at approximately \$800 billion. The chart below shows the MSCI World Equity Market Index with the weight of each subindex for the period ending December 31, 1997.



A tabular presentation of the data described above, along with STRS' actual allocation at year-end 1997, are presented below.

Allocation as of December 31, 1997					
	MSCI World STRS' Equity*				
Market	Index	Percent	Dollars (bil)		
North America**	49.2%	66.8%	\$31.82		
EAFE**	44.9%	30.4%	14.45		
Emerging Markets	5.9%	2.8%	1.35		
Total	100.0%	100.0%	\$47.62		

^{*} Includes the allocation of the Global TAA managers to these markets

The allocation of STRS' equity portfolios differs from the allocations in the MSCI World Equity Markets Index. As a U.S. investor, it is not uncommon to have domestic investments exceed the capitalization of these market allocations. Appendix 1, at the end of this attachment, shows the weight of each country contained in the MSCI World Equity Market Index.

DISCUSSION OF MANDATES

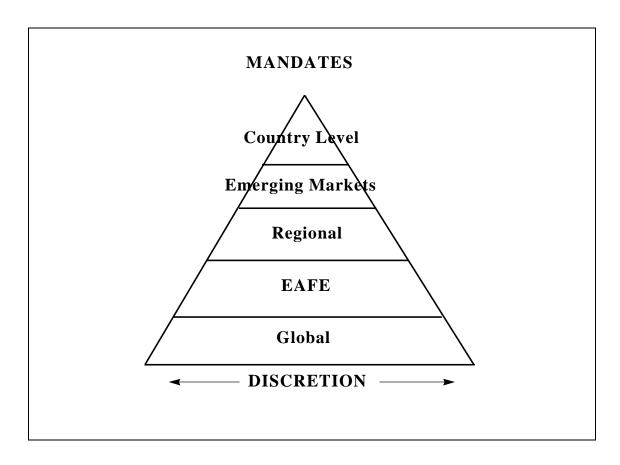
There are several ways to implement the non-dollar equity asset allocation component of STRS' asset allocation policy. Plan sponsors have a choice of geographic mandates to implement asset allocation policy. Based on the unique requirements of each plan sponsor, different mandates are appropriate. The mandates range from the broadest geographical mandate, global, to the most restrictive mandate, target specific country. Between these two extremes, are EAFE (non-dollar developed markets), EAFE sub components/regions (developed Europe and Pacific Basin) and emerging markets. Appendix 1 identifies the countries that comprise each mandate and is summarized in the following table.

Mandate	Countries
Global	50
EAFE	21
o Europe	15
o Pacific Basin	6
Emerging Markets	27
Country level	1

^{**} Developed Markets

Within each mandate, the amount of variance (risk), or discretion, from the benchmark is controlled in each manager's investment guidelines. Discretion, as used in this context, refers to the latitude that STRS gives each manager to allocate assets within their mandate. In all cases, the manager retains control of the "stock or country selection" process within each mandate.

The chart below illustrates various mandates that could be utilized to implement STRS' non-U.S. equity portfolio. At the bottom of the pyramid the manager has the most country allocation discretion, while STRS has little discretion over country allocation. As you move up the pyramid, the trade off in discretion of country allocation between STRS and the manager continues until at the top level, where the manager has no country allocation discretion and STRS has the most discretion (i.e., STRS controls the allocation to each country).



Definitions of each mandate in the above pyramid follows. Each mandate, retains the responsibility for stock selection within the country(s) defined by their respective mandates.

Global: This mandate allows investment in any of the 50 countries identified in Appendix 1 that are within STRS' investment guidelines. This mandate includes "developed" and emerging markets countries. The global mandate allows the manager the most discretion in country allocation.

EAFE: The EAFE mandate allows investment in 21 "developed" countries in the Pacific Basin and Europe. The country allocation discretion has been reduced by eliminating the opportunity to invest in the United States, Canada and emerging markets countries.

Regional: The Europe and Pacific Basin mandates are subsets of the EAFE mandate listed above. The European mandate allows investment in up to 15 "developed" countries in Western Europe as shown in Appendix 1. The Pacific Basin mandate allows investment in 6 "developed" countries (Australia, Hong Kong, Japan, Malaysia, New Zealand, and Singapore) that have been selected by MSCI to represent the Pacific Basin. For either mandate, the country allocation discretion has been reduced from the EAFE mandate.

Emerging Markets: The emerging markets mandate allows investment in up to 27 countries with "undeveloped" equity markets which are contained in the MSCI Emerging Markets Index. The country allocation discretion is limited to countries in this benchmark.

Country Level: The country level mandate allows investment in only one country. This mandate limits a manager's ability to add value exclusively through stock selection. This mandate requires STRS to control the allocation to each country shown in Appendix 1. The manager would have no discretion over country allocation.

PROS AND CONS OF EACH MANDATE

The previous section defined five mandates that are available to implement STRS' non-U.S. equity portfolio. In all cases, the manager would retain control of the "stock selection" process within each country. The pros and cons for global, EAFE, regional and country level mandates are summarized below.

GLOBAL MANDATE					
KEY ISSUES	PROS	CONS			
1. Allocation of assets	Maximum discretion to the investment manager over country allocation	The Board loses control over asset allocation			
2. Ability to add value	2. Maximum opportunity to add value through the use of 50 developed and undeveloped countries	2. Maximum opportunity to lose value			
3. Diversification through country/stock/currency	3. The non-dollar component (51%) provides good diversification	3. 49% of the benchmark is U.S. and Canada equity markets			
4. Potential to reduce risk	Maximum ability to avoid weak markets and currencies	4. Market timing could increase risk and hurt performance			
5. Variance versus a domestic benchmark	5. 51 percent of the benchmark is non-U.S. equity	5. 49% of the benchmark is U.S. and Canada equity markets			

EAFE MANDATE				
KEY ISSUES	PROS	CONS		
1. Allocation of assets	Manager is limited to 21 non- U.S. developed countries - STRS controls the allocation to domestic and non-U.S equity	The number of countries available for investment has been reduced		
2. Ability to add value	2. Significant opportunity to add value through the use of 21 developed countries	2. Significant opportunity to lose value		
3. Diversification through country/stock/currency	3. Significant diversification through investment in up to 21 countries	3. The number of countries available for investment has been reduced		
4. Potential to reduce risk	4. Ability to avoid weak markets and currencies in 21 countries	Market timing could increase risk and hurt performance		
5. Variance versus a domestic benchmark	5. 100% of the benchmark is non-U.S.	5. Does not include undeveloped countries		

REGIONAL MANDATE (EUROPE 15 / PACIFIC BASIN 6)				
KEY ISSUES	PROS	CONS		
1. Allocation of assets	1. Manager is limited to 15/6 non-U.S. developed countries, STRS controls the allocation to domestic and non-U.S equity	The number of countries available for investment has been reduced		
2. Ability to add value	2. Opportunity to add value through the use of 15/6 developed countries	2. Opportunity to lose value		
3. Diversification through country/stock/currency	3. Diversification through investment in up to 15/6 countries	3. The number of countries has been reduced		
4. Potential to reduce risk	4. Ability to avoid weak markets and currencies in 15/6 countries	4. Market timing could increase risk and hurt performance		
5. Variance versus a domestic benchmark	5. 100% of the benchmark is non-U.S.	5. Does not include undeveloped countries		

COUNTRY LEVEL MANDATE				
KEY ISSUES	PROS	CONS		
1. Allocation of assets	Concentrates on one country	This mandate has no control of the allocation of assets - STRS must allocate assets to each country		
2. Ability to add value	2. Stock selection within one country	Limited opportunity to add value through one country		
3. Diversification through country/stock/currency	3. Concentrates on one country	3. Limited diversification through investment in one country		
4. Potential to reduce risk	4. Ability to avoid a weak currency in one country	4. No ability to avoid weak markets and currencies with investment in one country		
5. Variance versus a domestic benchmark	5. 100% of the benchmark is non-U.S.	5. Only includes one country		

CONCLUSION

STRS' goal is to implement its asset allocation policy and allow sufficient discretion to active management to add value, but not so broad as to affect STRS' asset allocation process. The global mandate could infringe upon STRS' efforts to attain strategic asset allocation targets. Conversely, reducing the manager's discretion to only one country, as in the country level mandate, significantly reduces the manager's ability to add value and requires excessive effort to administer and monitor.

The EAFE, regional, and emerging markets mandates fall between these two extremes and provide distinct advantages. These mandates: (1) restrict the use of United States and Canadian equity markets, (2) allow flexibility for STRS to allocate assets across all segments of the non-U.S. equity market, and (3) provide the opportunity for active management to add value through country selection and stock selection. These mandates appear to be in concert with the Investment Committee's decision to have separate equity allocations to domestic, international, and emerging markets.

RECOMENDATION

Staff and Pension Consulting Alliance (PCA) recommend that STRS' non-U.S. equity portfolio include EAFE, regional (Europe and Pacific Basin) and emerging markets mandates. The structure for EAFE and regional mandates is discussed in Attachment 2. The structure of emerging markets will be addressed at a later date.

g:\eq\active\intl\Non-US Equity Attach 1 v4.doc

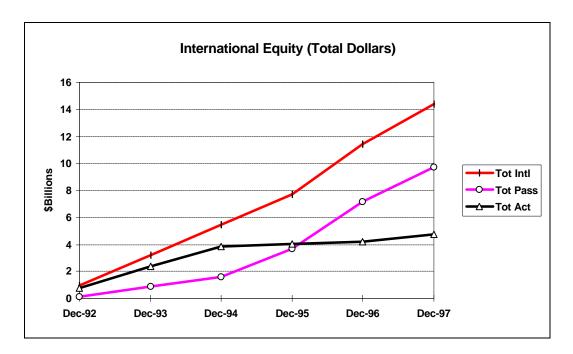
MSCI WORLD EQUIT	ΓΥ MARKET				
Country	Global	Pacific Basin	Europe	EAFE	Emerging Markets
United States	46.85%				
Canada	2.31%				
Australia	1.24%	8.41%		2.76%	
Hong Kong	1.26%	8.56%		2.81%	
Japan	11.31%	76.80%		25.19%	
Malaysia	0.37%	2.51%		0.82%	
New Zealand	0.14%	0.92%		0.30%	
Singapore	0.41%	2.79%		0.92%	
Austria	0.17%		0.58%	0.39%	
Belgium	0.57%		1.89%	1.27%	
Denmark	0.51%		1.69%	1.14%	
Finland	0.34%		1.11%	0.75%	
France	3.58%		11.87%	7.98%	
Germany	4.41%		14.62%	9.83%	
Ireland	0.18%		0.60%	0.40%	
Italy	1.80%		5.98%	4.02%	
Netherlands	2.55%		8.45%	5.68%	
Norway	0.24%		0.79%	0.53%	
Portugal	0.25%		0.82%	0.55%	
Spain	1.19%		3.96%	2.66%	
Sweden	1.17%		3.86%	2.60%	
Switzerland	3.51%		11.65%	7.83%	
United Kingdom	9.70%		32.14%	21.60%	
Argentina	0.29%		021170	21.0070	4.82%
Brazil	1.03%				17.29%
Chile	0.25%				4.17%
China Free	0.03%				0.51%
Colombia	0.06%				1.04%
Czech Rep	0.06%				1.04%
Egypt	0.05%				0.85%
Greece	0.17%				2.82%
Hungary	0.08%				1.39%
India	0.40%				6.75%
Indonesia Free	0.11%				1.87%
Israel	0.17%				2.83%
Jordan	0.01%				0.14%
Korea 50%	0.10%				1.61%
Mexico Free	0.82%				13.72%
Morocco	0.04%				0.68%
Pakistan	0.05%				0.85%
Peru	0.08%				1.30%
Philippines Free	0.09%				1.85%
Poland	0.03%				0.57%
Russia	0.37%				6.16%
South Africa	0.67%				11.31%
SRI Lanka	0.01%				0.09%
Taiwan 50%	0.58%				9.66%
Thailand Free	0.10%				1.68%
Turkey	0.10%				3.35%
Venezuela	0.10%				1.66%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Total 100.00% 100.00% 100.00% 100.00% 100.00%

STRUCTURE OF STRS' NON-U.S. EQUITY PORTFOLIO EAFE AND REGIONAL MANDATES

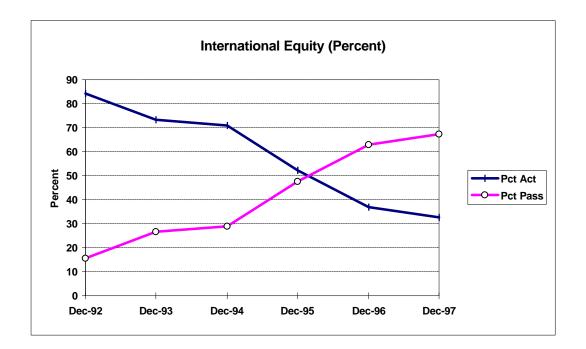
DISCUSSION OF ACTIVE AND PASSIVE MANAGEMENT

The California State Teachers' Retirement System (STRS) began investing in non-U.S. equity markets in August 1992 using active and passive management. The passive portfolio consisted of one investment manager with the mandate to invest in the Morgan Stanley Capital International (MSCI) EAFE Index (EAFE). The active portfolio was managed by nine investment managers, five with EAFE mandates, two with European regional mandates and two with Pacific Basin regional mandates. In early 1994, three additional managers were hired with EAFE mandates. As of December 31, 1997, the active component consists of seven managers with an EAFE mandate, one manager with an European regional mandate and one manager with a Pacific Basin mandate. The following chart shows the total dollars allocated to STRS' non-U.S. equity portfolio and how this allocation is divided between active and passive management.



The line chart shows a steady increase in non-U.S. equity with two distinct funding patterns. The South African divestment legislation (AB134) was passed and implemented prior to funding the non-U.S. equity portfolio This legislation substantially limited the number of stocks available for purchase, particularly in the European region. While AB134 was in effect, the portfolio emphasized active management because active management had the ability to "manage around" the restricted stocks. In 1995, the South African legislation was rescinded, which removed a major barrier to funding the passive portion of the non-U.S. equity portfolio. Since the repeal, funding the passive equity portfolio has been emphasized.

The following chart shows the funding of the non-U.S. equity portfolio in percentage format. At the end of 1993, the non-U.S. equity portfolio had 70% of its assets allocated to active management and 30% to passive management. By the end of 1997, the non-U.S. equity allocations had been reversed with an allocation of 30% to active management and 70% to passive management.



The performance of the non-U.S. equity portfolio, from January 1, 1993 through December 31, 1997, is summarized in the following two tables. Table 1 provides calendar year results for STRS' total non-U.S. equity portfolio, the passively managed portfolio, and the actively managed portfolio. Each of these portfolios has the EAFE Index as a performance benchmark. Passive management was the best performing portfolio from 1993 through 1995, while the actively managed portfolio was the best performer in 1996 and 1997. Actively managed portfolios had a rate of return higher than the EAFE Index in four of the last five calendar years.

Passive management exceeded the MSCI EAFE Index in 1993 primarily because the portfolio did not have the same sector weights as the MSCI EAFE Index.

Performance Summary (Historical)				Table 1
Calendar Year Returns				
	Total			MSCI
	Non-U.S. Eq	Passive	Active	EAFE
1993	33.1	53.6	32.7	32.6
1994	2.1	7.5	1.0	7.8
1995	10.2	12.2	11.4	11.2
1996	8.4	5.3	14.0	6.0
1997	2.5	-0.7	6.0	1.2

Table 2 shows annualized returns for the past one-, three- and five-year periods ending December 31, 1997. Over the past five years the total portfolio had a return of 13.20% which exceeds the EAFE Index by 1.9%. This also exceeds STRS' expected rate of return of 10.25% for non-U.S. equities, which was established in the most recent asset allocation study. For the past five-year period, the active portfolio has a compounded annualized return of 12.50% which exceeds the EAFE Index by 1.2%.

Performance Summary		(Historical)		Table 2
Annualized Returns		(Ending December 31, 1997))
	Total		MSCI	
	Non-U.S. Eq	Passive Active		EAFE
1 Year	2.5	-0.7	6.0	1.2
3 Years	7.9	5.5	10.4	6.1
5 Years	13.2	14.1	12.5	11.3

STRS' passive portfolio has exceeded the EAFE Index by 2.8% over the same period. The active portfolio exceeded the passive portfolio over the past one- and three-year periods. The portfolio weight in the Pacific Basin region (specifically Japan) is the major factor in the out-performance or under-performance relative to the MSCI EAFE Index during each period reviewed.

The performance of the MSCI EAFE Index and the median active manager in the InterSec Universe (InterSec is an international research firm associated with PCA) is shown in the next two tables. Table 3 shows the results of the median active manager and the MSCI EAFE Index for the past five calendar years, ending in December 31, 1997. Over this period, active management exceeded the EAFE Index in every year except 1994, where it lagged EAFE by 4.5%. On a compounded annualized basis, active management exceeded the EAFE Index over all periods shown. Annualized results are shown in Table 4. For the past five-year period, active management has exceeded passive management by 1.8%.

Active vs MSC	Table 3			
Calendar Yea	Calendar Year Returns			
	MSCI			
	Median			
1993	35.5	32.8		
1994	3.5	8.0		
1995	11.6	11.5		
1996	12.4	6.3		
1997	6.7	1.9		

Active vs MSC	Table 4		
Annualized Returns			
	MSCI		
	InterSec Median		
1 Year	6.7	1.9	
2 Years	9.7	4.1	
3 Years	3 Years 10.3		
4 Years	8.1	6.9	
5 Years	13.4	11.6	

Table 5 and Table 6 identify the impact of three asset allocation mixes for active and passive management. There are five columns of simulated results in Table 5 with the first column 100% active (i.e., InterSec Universe median active manager), the middle column 50% active and 50% passive, and the last column 100% passive management (i.e., MSCI EAFE Index).

Allocation to Active and Passive Management					Table 5		
Annualized R	Annualized Results (Simulated)						
(% Active* / % Passive**)							
	Active*	60/40	60/40 50/50 40/60				
1 Year	5.68	4.16	3.79	3.41	1.91		
2 Years	10.68	9.61	7.75				
3 Years	13.17	12.75	12.64	12.53	12.09		
5 Years	13.62	13.30	13.21	13.13	12.77		

^{*} Active management is represented as the median manager in the InterSec Universe

Source: InterSec Research Corp

^{**} Passive management is represented as the MSCI EAFE Index

Over each of the time periods analyzed, active management has outperformed passive management. Consequently, the higher the weighting of active management the better the relative performance of the non-U.S. equity portfolio.

The risk characteristics of these asset mixes are analyzed below. Table 6 provides the five year return for the 60%/40%, 50%/50%, and 40%/60% asset allocation mixes with its accompanying standard deviation, R-square and information ratio. Over all periods, the standard deviation of the non-U.S. equity portfolio is reduced as active management is increased. Diversification also improves as active management is increased (i.e., R-squared is lower). And, the information ratio (excess return divided by excess risk) improves as active management is increased. Active management improves the risk and return characteristics of the non-U.S. equity portfolio because the EAFE Index is not as efficient as the U.S. equity market.

Allocation to A	Table 6							
5 Year Statistical Analysis (Simulated)								
		(% Active* /						
	Active	60/40	50/50	40/60	Passive			
5 Yr Return	13.62	13.30	13.21	13.13	12.77			
Std. Dev.	8.90	9.09	9.20	9.34	10.11			
R-Sq	0.83	0.94	0.96	0.97	1.00			
Info Ratio	1.53	1.46	1.44	1.41	1.26			

^{*} Active management is represented as the median manager in the InterSec Universe

Source: InterSec Research Corp

These simulated results indicate that active management has exceeded passive management over the past five-year period. Although the results can be time period specific, the median active manager has constructed a non-U.S. portfolio that has a higher total rate of return which exhibits less risk than the MSCI EAFE Index.

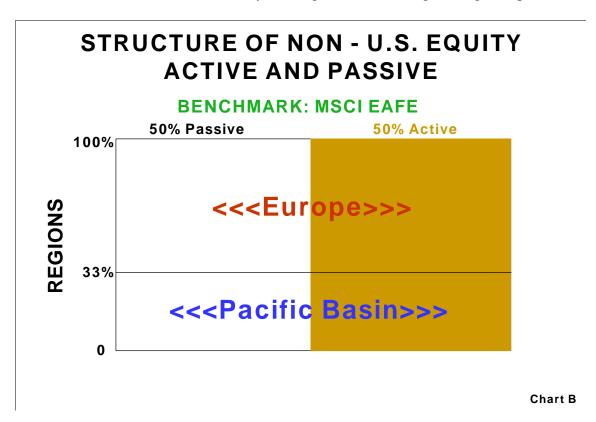
^{**} Passive management is represented as the MSCI EAFE Index

PROPOSED STRUCTURE OF STRS' NON-U.S. EQUITY PORTFOLIO

PASSIVE MANAGEMENT

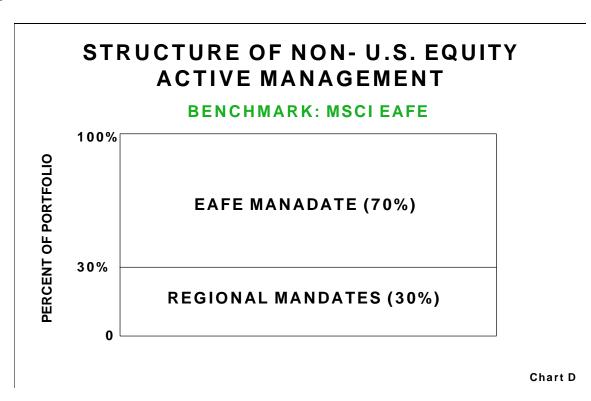
The chart below is a graphical representation of the EAFE Index with its two regional subsets, Europe and Pacific Basin. The countries that are in the EAFE Index and its regional subsets are shown in Appendix 1 at the end of this attachment. The active and passive components of STRS' non-U.S. equity portfolio can be visualized as a slice of this index across each region as shown in Chart B.

The investment objective for the passive portfolio is to replicate the performance and risk characteristics of the MSCI EAFE Index by creating two market weighted regional portfolios.



ACTIVE MANAGEMENT

The actively managed portfolio will have two components, EAFE and regional (Europe and Pacific Basin) mandates. This structure is depicted in Chart D. The EAFE mandate would represent approximately 70% of the active portfolio, with the remaining 30% represented by regional mandates.



The active managers' investment objective is to add value and manage portfolio risk. In either mandate, active managers' objective is to add value through one or more of the following; country selection, stock selection and currency management. Risk, (country, currency, industry, sector and stock selection risk) along with the risks associated with securities transactions in non-U.S markets (custody and record keeping) are addressed by each manager.

CONCLUSIONS

Based on the information provided, which includes: STRS' historical asset allocations, STRS' historical non-U.S. equity portfolio performance, risk/return simulations and the overall objective of STRS' investment portfolio, we conclude:

- 1. STRS' existing structure for the non-U.S. equity portfolio remains valid and only needs minor changes.
- 2. There is a role for both EAFE and regional mandates in STRS' non-U.S. equity portfolio.
- 3. Active management has the potential to add value versus a passive benchmark such as the MSCI EAFE Index.
- 4. Increasing active management in the non-U.S. equity portfolio will enhance the total portfolio risk and return profile.

RECOMMENDATIONS

Staff and Pension Consulting Alliance make the following recommendations:

- 1. The MSCI EAFE Index should continue to be the benchmark (for developed markets) for STRS' non-U.S. equity portfolio. This includes the regional indices for regional mandates (Europe and Pacific Basin).
- 2. The actively managed portfolio should consist of EAFE and regional (Europe and Pacific Basin) mandates. The strategic asset allocation target for the regional mandates should be the EAFE weightings with a range of +/- 5% for each region.
- 3. Modify the strategic asset allocation target to 50% active management and 50% passive for the non-U.S. equity portfolio. The strategic asset allocation target would have a range from 45% to 55%.

MSCI WORLD EQUI	TY MARKET				
Country	Global	Pacific Basin	Europe	EAFE	Emerging Markets
United States	46.85%				
Canada	2.31%				
Australia	1.24%	8.41%		2.76%	
Hong Kong	1.26%	8.56%		2.81%	
Japan	11.31%	76.80%		25.19%	
Malaysia	0.37%	2.51%		0.82%	
New Zealand	0.14%	0.92%		0.30%	
Singapore	0.41%	2.79%		0.92%	
Austria	0.17%	2.1770	0.58%	0.39%	
Belgium	0.57%		1.89%	1.27%	
Denmark	0.51%		1.69%	1.14%	
Finland	0.34%		1.11%	0.75%	
France	3.58%		11.87%	7.98%	
Germany	4.41%		14.62%	9.83%	
Ireland	0.18%		0.60%	0.40%	
ireiand Italy	1.80%		5.98%	4.02%	
ntary Netherlands	2.55%		5.98% 8.45%	4.02% 5.68%	
	0.24%		0.79%	0.53%	
Norway Bortugal	0.25%		0.79%		
Portugal				0.55%	
Spain	1.19%		3.96%	2.66%	
Sweden	1.17%		3.86%	2.60%	
Switzerland	3.51%		11.65%	7.83%	
United Kingdom	9.70%		32.14%	21.60%	4.000/
Argentina	0.29%				4.82%
Brazil	1.03%				17.29%
Chile	0.25%				4.17%
China Free	0.03%				0.51%
Colombia	0.06%				1.04%
Czech Rep	0.06%				1.04%
Egypt	0.05%				0.85%
Greece	0.17%				2.82%
Hungary	0.08%				1.39%
India	0.40%				6.75%
Indonesia Free	0.11%				1.87%
Israel	0.17%				2.83%
Jordan	0.01%				0.14%
Korea 50%	0.10%				1.61%
Mexico Free	0.82%				13.72%
Morocco	0.04%				0.68%
Pakistan	0.05%				0.85%
Peru	0.08%				1.30%
Philippines Free	0.09%				1.85%
Poland	0.03%				0.57%
Russia	0.37%				6.16%
South Africa	0.67%				11.31%
SRI Lanka	0.01%				0.09%
Taiwan 50%	0.58%				9.66%
Thailand Free	0.10%				1.68%
Turkey	0.20%				3.35%
Venezuela	0.10%				1.66%
	100 00%	100 00%	100 00%	100 00%	•

Total 100.00% 100.00% 100.00% 100.00% 100.00%